SECTION 099113
COATING SYSTEMS

PART 1 - GENERAL

101. EXTENT

101.1 This Section prescribes the minimum requirements for coating systems for equipment, architectural, and structural elements.

101.2 CONTRACTOR shall furnish all material, labor, equipment, apparatus, scaffolding and inspection devices associated with the Work.

101.3 CONTRACTOR shall apply a touch-up where the shop coating has been marred, scratched or otherwise damaged due to any reason.

101.4 All ferrous surfaces of equipment and structural elements supplied by the CONTRACTOR shall be coated in the shop after surface preparation with the following exceptions that shall not be painted:

a. Joints and surfaces to be field welded (unless a weldable primer, approved by the DISTRICT, is used).

b. Surfaces in contact with concrete or grout.

c. Milled and other machine-finished surfaces.

d. Galvanized surfaces.

e. Non-ferrous surfaces.

f. Interior surfaces which are to be covered with a lining.

g. CONTRACTOR shall protect all surfaces that are not to be coated. These surfaces include nameplates, decals, couplings, shafts, gasket surfaces, valve stems, motors, electronic equipment and other instrumentation and finished surfaces.

101.5 Shop coated members that have joints and/or surfaces that will be field welded shall have a three (3) inch strip on each side of the joint or field weld location left uncoated. Should the CONTRACTOR elect to use weldable primer, the three (3) inch strip on each side of the joint or field weld location is not required. CONTRACTOR shall submit manufacturer's information on application and chemical composition to the DISTRICT for approval.

101.6 Milled surfaces and other machine-finished surfaces shall be protected against corrosion by using lacquer or other suitable material approved by the DISTRICT.

101.7 Where required by the specification, the CONTRACTOR shall provide field touch-up coating for equipment and structural elements described in Article 303.5.

101.8 CONTRACTOR shall repair all damaged steel surfaces and bolts in accordance with ASTM A780.

102. REFERENCE DOCUMENTS

102.1 Standards, specifications, manuals, codes and other publications of nationally recognized organizations and associations are referenced herein. Methods, equipment and materials specified herein shall comply with the specified and applicable portions of the referenced documents indicated in Section 014219, in addition to federal, state or local codes having jurisdiction. References to these documents are to the latest issue date of each document, unless otherwise indicated, together with the applicable additions, addenda, amendments, supplements, thereto, in effect as of the date indicated in Section 014219.

102.2 AISC – American Institute of Steel Construction:

a. Specification for Structural Steel Buildings – Allowable Stress Design and Plastic Design

102.3 ASTM – ASTM International:

a. A 90 – Standard Test Method for Weight [Mass] of Coating on Iron and Steel Articles with Zinc or Zinc-Alloy Coatings

b. A 123 – Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products

c. A 143 – Standard Practice for Safeguarding Against Embrittlement of Hot-Dip Galvanized Structural Steel Products and Procedure for Detecting Embrittlement

d. A 153 – Specification for Zinc Coatings (Hot-Dip) on Iron and Steel Hardware

e. A 239 – Test Method for Locating the Thinnest Spot in a Zinc (Galvanized) Coating on Iron or Steel Articles by the Preece Test (Copper Sulfate Dip)

f. A 384 – Practice for Safeguarding Against Warpage and Distortion During Hot-Dip Galvanizing of Steel Assemblies

g. A 385 – Practice for Providing High-Quality Zinc Coatings (Hot-Dip)

h. A 780 – Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings

i. B 6 – Standard Specification for Zinc (Slab Zinc)

j. D 7091 – Standard Practice for Nondestructive Measurement of Dry Film Thickness of Nonmagnetic Coatings Applied to Ferrous Metals and Non-Magnetic, Nonconductive Coatings Applied to Non-Ferrous Metals

k. D 1212 – Standard Test Methods for Measurement of Wet Film Thickness of Organic Coatings

l. D 4417 – Standard Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel

m. E 376 – Standard Practice for Measuring Coating Thickness by Magnetic – Field or Eddy – Current (Electromagnetic) Examination Methods

102.4 SSPC – The Society for Protective Coatings:

a. Vis 1 – Visual Standard for Abrasive Blast Cleaned Steel

b. Vis 2 – Standard Method of Evaluating Degree of Rusting on Painted Steel Surfaces

c. Vis 3 – Visual Standard for Power and Hand-Tool Cleaned Steel

d. PAI – Shop, Field and Maintenance Painting

e. PA2 – Measurement of Dry Paint Thickness with Magnetic Gauges

f. SP1 – Solvent Cleaning

g. SP2 – Hand Tool Cleaning

h. SP3 – Power Tool Cleaning

i. SP5 – White Metal Blast Cleaning

j. SP6 – Commercial Blast Cleaning

k. SP7 – Brush-Off Blast Cleaning

l. SP10 – Near-White Blast Cleaning

m. SP11 – Power Tool Cleaning to Bare Metal

n. ISO-12944 All Parts – Corrosion Protection of Steel Structures by Protective Paint Systems

103. SUBMITTALS

103.1 Submit the following documents in accordance with Section I – Contract Drawing and Data Requirements, to the DISTRICT for review:

a. Manufacturer's product data and material safety data sheets for the coating products, application instructions and chemical compositions.

b. CONTRACTOR's quality assurance program shall, at a minimum, describe the following for each different coating system in accordance with ASTM Standards:

b1. Surface preparation.

b2. Selection of blasting sand, grit or shot, (if blasting is used)

b3. Quality control procedures for personnel performing the cleaning and coating work.

104. GENERAL QUALITY CONTROL AND QUALITY ASSURANCE PROVISIONS

104.1 General:

a. Coating shall have a minimum design life of 20 years without recoating.

b. The coating and finish of supplied equipment, architectural and structural elements furnished under this Specification shall conform to the requirements of this Section and the governing building codes, with local amendments. The Work shall conform to the codes and standards in effect at the time of contract award. Any and all deviations from these requirements are subject to approval by the DISTRICT. In cases where conflicts between the cited codes and this Section exist, the requirements of the more

conservative document shall be met. When the codes and this Section do not use consistent requirements and it is not clear which governs, both the codes and this Section shall be checked individually to ensure compliance with each.

104.2 Coating Manufacturers:

a. One coating manufacturer shall be chosen by the CONTRACTOR to supply all primer, touch-up, intermediate and finish coatings and any related materials for the entire Contract.

b. Products of coating manufacturers other than those specified herein, must be approved in writing by the DISTRICT prior to use.

105. DELIVERY, HANDLING AND STORAGE

105.1 Material delivered to the Project Site shall be in original, new and unopened packages and containers bearing manufacturer's name and label.

105.2 Labels on each container shall include the following information:

a. Name or title of material

b. Manufacturer's stock number

c. Manufacturer's name

d. Contents by volume for major pigment constituents

e. VOC content

f. Thinning instructions

g. Shelf life

h. Application instructions

PART 2 – PRODUCTS

201. ACCEPTABLE MANUFACTURERS AND PRODUCTS

201.1 Acceptable Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products listed below or listed in other Part 2 articles.

202. MATERIALS

202.1 General:

a. CONTRACTOR shall provide the DISTRICT with a recommended manufacturer's coating system for all supplied equipment (e.g., pumps, valves, pipe, pipe supports, etc.) for the environment and intended service of that equipment. The coating system shall include identification of surface preparation, shop prime coating, shop finish coating, shop touch-up coating and coating materials required for the Work.

b. CONTRACTOR shall provide the DISTRICT with a recommended manufacturer's coating system for all supplied structural elements for the environment and intended service of those structural elements. Such elements include, but are not limited to, structural steel for supporting equipment, conveyor

support steel, auxiliary steel for supporting pipes, cable trays and conduits, and all steel associated with gallery work. The coating system shall include identification of surface preparation, shop prime coating, shop finish coating, shop touch-up coating and coating materials required for the Work.

c. Coating systems shall comply with Table 1.

d. Galvanized or manufacturer's recommended coating as specified in this Section.

e. All coating products except zinc rich primers used on this project shall be certified 100% lead free. Zinc rich primers shall be restricted to ASTM B6 High Grade, Special High Grade or LME Grade only.

202.2 Coating Systems:

a. Coating System CS-107:

TOUCH-UP SPRAY APPLIED COATING FOR HOT-DIPPED GALVANIZED STEEL

Description	:	Touch-up spray applied coating for hot-dipped galvanized steel
Uses	:	Surfaces which have been abraded or burned off by welding
Criteria	:	Application temperature > 50°F; above ground; underground; underwater; embedded; indoors, outdoors; operating temperature ≤ 750°F; abrasive; non-abrasive; corrosive, non-corrosive; uninsulated
Surface Preparation	:	Per coating manufacturer
Surface Profile	:	Per coating manufacturer
Generic Type Primer	:	Zinc rich

Approved Suppliers	Touch-Up	VOC	DFT (mils)
Keeler & Long PPG	Galv-Anode Primer #KL6500	.61	2-3
Carboline	Galvanox No. 1	4.5	3-4
Sherwin Williams	Zinc Clad 5-B69A45	4.1	3-4
PPG	UC65383/65384	2.3	3

b. Coating System CS-204:

2-COAT INORGANIC ZINC, EPOXY SYSTEM FOR USE OVER PROPERLY PREPARED STEEL SUBSTRATES

Description	:	2-coat inorganic zinc, epoxy system for use over properly prepared steel substrates
Uses	:	Interior and exterior surfaces where protection against

grease, oil, solvent, and chemical splash is desired

Criteria	:	Application temperature > 50°F; above ground; embedded; indoors; outdoors; operating temperature ≤ 170°F; corrosive, non-corrosive; uninsulated
Surface Preparation	:	SSPC-SP6
Surface Profile	:	Per coating manufacturer
Generic Type Primer	:	Inorganic Zinc
Generic Type Finish	:	Epoxy

Approved Suppliers	Primer	VOC	DFT
Carboline	CZ-11 HS	2.2	2-4
International	Intezinc 22 HS	2.8	2-4
Ameron	D9 HS	2.6	2-4
PPG	97-673/97-675	3.31	2-4
Devoe	Cathacoat 304V	2.4	2-4
Keeler & Long PPG	KLC 8820/8825	3.31	2-4
Sherwin Williams	B69V12/B69D11/B69V13 Zinc Clad Plus	2.6	2-4

Approved Suppliers	Finish	VOC	DFT
Carboline	890	1.78	4-6
International	Intergard 345	2.7	4-6
Ameron	Amerlock 400	1.4	4-6
PPG	97-145/97-149 Series	1.1	4-6
Keeler & Long PPG	9600	0.90	4-6
Sherwin Williams	Marco Poxy 646	1.96	4-6
Devoe	Devran 224 HS	1.8	4-8

c. Coating System CS-232:

2-COAT EPOXY SHOP APPLIED SYSTEM FOR EXTERNAL CARBON STEEL SERVICES THAT HAVE NOT BEEN PREVIOUSLY COATED

Description	:	2-coat epoxy shop applied system for external carbon steel surfaces that have not been previously coated
Uses	:	Chemical resistant coating where sulfuric acid spill protection is desired
Criteria	:	Application temperature > 50°F; above ground; indoors; operating

temperature ≤ 170°F; nonabrasive; corrosive; uninsulated

Surface Preparation	:	SSPC-SP5
Surface Profile	:	3 to 4 mills
Generic Type Primer	:	Epoxy
Generic Type Finish	:	Epoxy

Approved Suppliers	Primer	VOC	DFT
Sherwin Williams	B62H220 – Nova Plate Primer	0.10	6-12
Carboline	Phenoline 379	0	15-20
International	Interline 955	0.29	15-20
PPG	90003	0.45	5-7
Devoe	Devran 124	0	20-25
Tnemec	Series 61-5002	1.41	8-10
Keeler & Long PPG	92003	0.45	5-7

Approved Suppliers	Finish	VOC	DFT
Carboline	Semstone 145-TL	0	15-20
International	Interline 955	0.29	15-20
PPG	97071/97072	0	15-20
Devoe	Devran 124	0	20-25
Tnemec	Series 61-5001	1.41	8-10
Keeler & Long PPG	92353KT	0.0	15-20
Sherwin Williams	B62H220 – Nova Plate Primer	0.10	10-16

d. Coating System CS-309:

2-COAT INORGANIC ZINC PRIMER, EPOXY INTERMEDIATE AND POLYURETHANE FINISH FOR
INTERIOR AND EXTERIOR PROPERLY PREPARED STEEL SUBSTRATES

Description	:	3-coat inorganic zinc primer, epoxy intermediate and polyurethane finish for interior and exterior properly prepared steel substrates
Uses	:	Interior and exterior surfaces
Criteria	:	Application temperature > 50°F; above ground; underground; underwater; embedded; indoors; outdoors; operating temperature ≤ 170°F; abrasive; non-abrasive; corrosive; non-corrosive; insulated, uninsulated
Surface Preparation	:	SSPC-SP6

Surface Profile	:	Per coating manufacturer
Generic Type Primer	:	Inorganic zinc
Generic Type Intermediate	:	Epoxy
Generic Type Finish	:	Polyurethane

Approved Suppliers	Primer	VOC	DFT
Carboline	CZ-11 HS	2.2	2-4
International	Intezinc 22 HS (7898)	2.8	2-4
Sherwin Williams	B69VZ1/B69D11/B69VZ3 Zinc Clad II HS	2.6	3-5
Ameron	D9 HS	2.6	2-4
Tnemec	Series 90-96	2.9	2-4
PPG	97-673/97-675	3.3	2-4
Devoe	Cathacoat 304V	2.4	2-4
Sigma	7551 US	2.7	2-4
Jotun	Resist – AV (V13F12)	2.7	2-4

Approved Suppliers	Intermediate	VOC	DFT
Carboline	893	1.62	4-6
International	Interseal 670 HS (7898)	2	4-6
Sherwin Williams	B67 Series/B67V5 Recoatable Epoxy	2.46	4-6
Ameron	385	2.3	4-6
Tnemec	Series 66	3.1	4-6
PPG	94-109/94-128	2.2	4-6
Devoe	Devran 224 HS	1.8	4-6
Sigma	7456 US	2.6	4-6
Jotun	Primastic AV	1.99	4-6

Approved Suppliers	Finish	VOC	DFT
Carboline	Carbothane 134 HG	2.2	2-3
International	Interhane 990 (7898)	2.73	2-3
Sherwin Williams	B65-300/B65V30 Hi-Solids Polyurethane	2.40	2-3
Ameron	450 HS	2.4	2-3
Tnemec	Series 73	3.1	2-3
PPG	95-812 Series	2.8	2-3
Devoe	Devthane 389	3.2	2-3
Sigma	5523	3.1	2-3
Jotun	Hardtop Urethane Enamel – AV-40 Series	3.01	2-3

Note:

1. Provide a mist coat as recommended by the coating manufacturer over the prime coat.

203. SOURCE QUALITY CONTROL

203.1 Inspections:

a. All Work may be subject to inspection by the DISTRICT and any Work found not in accordance with the requirements specified herein shall be satisfactorily redone by CONTRACTOR at no additional cost to the DISTRICT.

b. Inspection of surface preparation will be based upon comparison with: "Visual Standard for Abrasive Blast Cleaned Steel," SSPC-Vis. 1. Anchor profile for prepared surfaces shall be measured by use of methods A or C per ASTM D 4417.

c. Inspection of WFT shall be based on measuring the average WFT, using a Nordson Type Wet Film Gauge, or an Interchemical Type direct reading WFT gauge, or equal. For the Nordson type gauge, not less than two (2) applications of the gauge will be made in each area to be tested to determine an average WFT; for the Interchemical type gauge, not less than two (2) rolls of the gauge in opposite directions per the requirements of ASTM D 1212.

d. CONTRACTOR shall make available WFT and DFT gauges for the DISTRICT's use at all times.

e. CONTRACTOR shall obtain from the coating manufacturer and submit to the DISTRICT the WFT required to obtain the specified DFT for each type of coating material and for each method.

f. CONTRACTOR shall furnish U.S. Department of Commerce; National Institute of Standards and Technology (NIST) certified thickness calibration plates to test the accuracy of DFT gauge.

g. DFT may also be inspected by the DISTRICT for verification of coating thickness. Testing shall be performed in accordance with ASTM D 7091.

h. The DISTRICT may make random checks of items that have been coated. This will be performed by removing small swatches of the coating base substrate using acetone or other applicable solvent.

PART 3 – EXECUTION

301. EXAMINATION

301.1 Examine substrates and conditions for compliance with requirements for paint application:

a. Proceed with paint application only after unsatisfactory conditions have been corrected.

302. SURFACE PREPARATION

302.1 Conform to the applicable requirements of the specified coating system designated in Table 1.

303. COATING APPLICATION

303.1 General:

a. Application of coating shall conform to the applicable requirements of SSPC-PA1, "Shop, Field and Maintenance Painting" and to the manufacturer's instructions.

b. Dewpoint shall be measured by use of an instrument such as a Sling Psychrometer in conjunction with U.S. Weather Bureau Psychometric Tables.

c. No coating shall be applied:

c1. When the surrounding air temperature or the temperature of the surface to be coated is below 40°F (4.4°C).

c2. To wet or damp surfaces.

c3. In rain, snow, fog or mist.

c4. When the temperature is less than 5°F (2.78°C) above the dewpoint.

c5. When it is expected that the air temperature will drop below 40°F (4.4°C) or less than 5°F (2.78°C) above the dewpoint within eight hours after application of the coating.

d. If the above conditions are prevalent, coating shall be delayed or postponed until conditions are favorable. The day's coating work shall be completed in time to permit the film sufficient drying time to prevent damage by atmospheric conditions.

303.2 Material Preparation:

a. Mix and prepare coating material in accordance with the manufacturer's directions.

b. Stir material before application to produce a mixture of uniform density and stir as required during application of material. Do not stir surface film into the material. Remove the file and, if necessary, strain the material before using.

c. If the CONTRACTOR intends to use thinners, the CONTRACTOR shall inform the DISTRICT and the coating manufacturer of the intended method of application. The coating manufacturer shall then re-evaluate the coating and furnish the DISTRICT and the CONTRACTOR, in writing, with the required wet film thickness. CONTRACTOR shall obtain the DISTRICT's approval of the coating manufacturer's required wet film thickness prior to the application of any further material.

303.3 Application:

a. Apply coating materials in accordance with the coating manufacturer's printed instructions. Use applicators and techniques best suited for the type of material being applied.

b. CONTRACTOR shall be responsible for paint compatibility.

c. Application of coating shall be applied evenly, free of runs or sags, with no evidence of poor workmanship. Finish surfaces shall be free from defects or blemishes.

d. The WFT shall be based on applying the material directly from the original containers without thinning. If the DISTRICT approves thinners, the WFT applicable to the amount of thinner shall be used.

e. CONTRACTOR shall apply coating materials in one coat to achieve the specified dry film thickness.

f. On-site spray painting is not permitted without prior written approval from the DISTRICT.

303.4 Faying Surface Coatings:

a. Coatings and their overspray, other than inorganic zinc, shall NOT be applied to the faying surfaces of bolted connections, unless it meets the requirements in AISC "Specification for Structural Joint Using ASTM A325 or A490 Bolts" for the connection design class.

b. Coatings, including any inadvertent overspray, shall be excluded from areas closer than one bolt diameter but not less than one inch from the edge of any hole and all areas within the bolt pattern.

303.5 Touch-Up Coating:

a. Touch-up coating shall be the same as the specified coating material and color as used for the shop coat. The touch-up coating shall be applied to the damaged surface after completion of specified surface preparation.

b. CONTRACTOR shall ship a sufficient quantity of paint, same as used for the shop coats, to the project site for use as touch-up paint.

c. Touch-up coating shall overlap the original coat by not less than one (1) inch all around, to ensure continuity of the coating.

d. For any surfaces which have received two coats, touch-up coating shall consist of two coats also; such 2-coat touchup shall conform to the same requirements as for 2-coat coating work.

304. SAFETY COLOR CODE COATING

304.1 Items scheduled to be coated with safety colors shall be coated in colors complying with ANSI/NEMA Z535.1 ISCC-NBS color designations and block numbers and as specified and approved by the DISTRICT. Color coating for safety colors is in addition to coating specified in Table 1. Colors should be non-fading and non-chalking. Where color coating is to be applied to galvanized steel, the color coating shall be applied over the galvanizing.

304.2 Diagonal Bracing and Gusset Plates:

a. Diagonal bracing in open bays subject to passage of personnel and equipment: Apply Safety Yellow and Black coating (diagonal striping) to a height of 8 feet from floor.

b. Bottom Gusset Plates: Safety Yellow.

c. Top gusset plates, balance of diagonal bracing, and diagonal bracing in plane of wall: Same as specified for structural steel.

304.3 Handrails, Ladders and Safety Cages:

a. Handrails: Top rail and terminal posts – Safety Yellow.

b. Ladders: Entire exposed surfaces of sidebars, 2 top and 2 bottom rungs – Safety Yellow.

c. Safety Cages: Bottom 2 horizontal hoops and vertical supports between them. Top horizontal hoops and vertical supports between them – Safety Yellow.

d. Balance: Where Safety Yellow is not scheduled, coat remainder as specified in Table 1.

304.4 Stair Nosings and Grating Edges of Galleries:

a. Steel Stair Nosings: Coat top 2 and bottom 2 nosings, 3 inches wide top and face, full width of stair – Safety Yellow.

b. Steel Grating Edges: Where there is only one-step directional between grating areas and no handrail occurs, coat the nosing of the higher grating and the face of the riser completely – Safety Yellow.

304.5 Trolley Beams: Safety Yellow. The design capacity of the trolley beam shall be stenciled on both sides of the web at the approximate midspan of each beam, using the notation "CAPACITY TONS" lettered in 3-inch high block letters with black paint.

304.6 Piping: As specified in Table 2.

304.7 Fire Hose Cabinets, Extinguishers and Hose Outlet Areas:

a. Coat fire hose cabinets (excluding hose and hose connections) and branch piping to approximately 5 feet on both sides of the fire house cabinets.

b. Mounted on Walls: Apply a background panel of Safety Red color extending approximately 1 foot on both sides of the fire hose cabinets.

c. Mounted on Columns or Posts: Apply a band of Safety Red color completely around the column or post, extending approximately one foot above and one foot below the facility.

d. Fire hose cabinets in architecturally finished areas shall not be coated.

304.8 Dangerous parts of equipment or energized equipment as defined in ANSI 253.1 shall be identified and coated Safety Yellow.

304.9 First Aid Kits, Stretchers, Eye Wash Stations, and Flush Showers shall be coated in Safety Green to the extent indicated, include white lettering.

305. PIPING COLOR CODES

305.1 Surface preparation and painting system shall be in accordance with Table 2.

305.2 Exposed steel piping shall be coated with colors complying with ASME A13.1, ANSI/NEMA Z535.1, and Table 1.

306. METAL SIDING AND EXTERIOR METAL LAGGING COLORS

306.1 Major Structure Color:

a. As approved by the DISTRICT from coating manufacturer's custom color sample submittal.

b. Includes exterior wall panels, metal flashing, trim, metal closure and accessories except for accent colors.

306.2 Accent Color:

a. As approved by the DISTRICT from coating manufacturer's custom color sample submittal.

b. Includes exterior wall panels, trim and closures, as indicated.

307. FIELD COATING

307.1 Field Touch-Up Coating:

a. Field touch-up coating shall be applied to the following surfaces:

a1. Surfaces where shop or field coating has been marred, scratched or otherwise damaged, due to any reason.

a2. Heads of the field bolts and nuts, and adjacent surfaces left uncoated in the shop.

a3. Surfaces of field welds and adjacent surfaces left uncoated in the shop.

a4. Surfaces of any ferrous fasteners not otherwise protected.

a5. Exposed fabrication, erection or shipping marks shall be cleaned off and the areas touch-up coated to match the adjacent surfaces.

307.2 Field prime and finish coating shall be as provided where indicated in project specifications. Surface preparation and coating systems shall be per Table 1. Caulking:

a. Do not apply coating over Thiokol base or Silicone base rubber sealant caulking.

b. Other caulking materials shall be coated with the same coating as used for adjacent surfaces. Unless otherwise specified herein, the finish coat color shall be as specified by the DISTRICT.

308. ATTACHMENTS

308.1 Table 1 – Extent of Coating and Finish Systems

308.2 Table 2 – Color Scheme for Non-Insulated Piping Identification

TABLE 1
EXTENT OF COATING AND FINISH SYSTEMS

ITEM	EXPOSURE	COATING SYSTEM	COLOR
1. Structural steel, miscellaneous steel and gallery work	Indoor	CS-204	OSHA Color WH-2 OSHA, as specified in ANSI Z535.1-1997
	Outdoor	CS-309	PPG Industries Florentine Gold
2. Ladder, ladder cages, swing gates, handrail and guard plates	Indoor	CS-204	ANSI Safety Yellow (See Article 304) OSHA Color YE-3 OSHA
	Outdoor	CS-309	
3. Grating, stair treads and checkered plates	Indoor and Outdoor	CS-107	N/A
4. Supplementary steel for pipe supports, and all other associated hardware	Indoor	CS-204	PPG Industries Florentine Gold
	Outdoor	CS-309	PPG Industries Florentine Gold
5. Structural steel to 3'-0" above top of foundation	Indoor Corrosive	CS-232	PPG Industries Florentine Gold
6. Pipe systems in accordance with the following coating system details	Indoor	CS-204	See Table 2
	Outdoor	CS-309	
7. Insulated Piping	N/A	None	N/A
8. Stainless steel, unless otherwise indicated	None	N/A	N/A
9. All Tanks	Interior	See Section 441130	TBD
	Exterior	CS-309	PPG Industries Florentine Gold
10. Mechanical Equipment (not lagged or galvanized)	Exterior	CS-309	PPG Industries Florentine Gold
11. Absorber Building and Structural Steel	Interior	CS-232	OSHA Color WH-2 OSHA, as specified in ANSI Z535.1-1997
12. Personnel Access and Mainteance Rollup Doors	Exterior	CS-309	PPG Industries Florentine Gold
13. Electrical Equipment (motors, terminal boxes, ect)	Supplied	Supplied	ANSI-61 Gray
14. Ducts			
a. Absorber Vessel Inlet Duct	Interior	None	TBD
	Exterior	None	
b. Absorber Vessel Outlet Duct	Interior	None	TBD
	Exterior	None	

ITEM	EXPOSURE	COATING SYSTEM	COLOR
c. Duct in between Absorber Vessel Outlet and Chimney Breeching Inlet	Interior	None	TBD
	Exterior	None	

Notes:

1. CONTRACTOR's scope of work includes performing touch-up coating work for FGD installed items, equipment, facilities and as required per Article 307 of this specification.
2. TBD indicates that the color is to be determined later.
3. All field coating shall be coordinated with the manufacturer's requirements.

TABLE 2
COLOR SCHEME FOR NON-INSULATED PIPING IDENTIFICATION

SYSTEM	COLOR CODE
Absorber Bleed	Dark green
Absorber Quench	Light green
Absorber Recycle	Dark green
Control Air	White
Equipment Drains	Medium grey
Fire Protection	Safety red
Limestone Ball Mill System	Medium green
Limestone Slurry Feed	Dark green
Mist Eliminator Wash System	Light green
Oxidation Air (if not Insulated)	Dark blue
Reclaim Water	Dark green
Service Air	White
Makeup Water	Medium blue

END OF SECTION 099113